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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,302	08/28/2003	Yukiko Kubota	S01.12-0965/STL 11036.00	6926
7590	04/04/2005		EXAMINER RICKMAN, HOLLY C.	
David C. Bohn Westman, Champlin & Kelly Suite 1600 900 Second Avenue South Minneapolis, MN 55402-3319			ART UNIT	PAPER NUMBER
			1773	
DATE MAILED: 04/04/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/650,302

**Applicant(s)**

KUBOTA ET AL.

**Examiner**

Holly Rickman

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-22 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 7, 23-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The rejection of claim 10 under 35 U.S.C. 112, second paragraph, is withdrawn in view of Applicant's arguments.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 8-22, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carey et al. (US 2003/0022023) in view of Shimizu et al. (US 2002/0004148).

Carey et al. teach a magnetic recording medium having a seedlayer formed from a Cu-IrMn laminate, a multilayered soft magnetic layer formed from CoFe layers separated by nonmagnetic coupling layers and a magnetic recording layer thereon. The reference teaches that the easy axis orientation is circumferential and the soft magnetic underlayer is devoid of domain walls (paragraphs 3, 5, 10, 12, 14, 16, 28, 30). With respect to the claim limitation directed to a magnetic moment greater than 1.7 T, it is the Examiner's contention that the CoFe soft magnetic layers taught by Carey et al. inherently satisfy this limitation by virtue of the fact that magnetic moment is a material property and Applicant's teach using the same material.

Carey et al. is silent with respect to the texturing of the soft magnetic underlayer to provide circumferential easy axis orientation.

Shimizu et al. teaches circumferentially texturing a substrate beneath a soft magnetic underlayer in a recording structure in order to effect texturing of the soft magnetic layer thereby reducing spike noise (see paragraph 34).

It would have been obvious to one of ordinary skill in the art at the time of invention to circumferentially texture the substrate taught by Carey et al. in order to provide a soft magnetic underlayer having texture, thereby decreasing spike noise.

#### ***Allowable Subject Matter***

4. Claims 7 and 23-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

5. Applicant's arguments filed 1/7/05 have been fully considered but they are not persuasive.

With respect to the rejection of the claims over Carey et al. in view of Shimizu et al., Applicant argues that Carey et al. does not teach "Fe<sub>65</sub>Co<sub>35</sub> soft magnetic layers. Furthermore, Applicant contends that "[m]agnetic properties of soft magnetic materials are not determined solely by material composition, but are also determined by processing conditions." Thus,

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Applicant maintains that Carey et al. does not inherently teach the claim limitation directed to a magnetic moment having a value greater than 1.7 T.

The Examiner agrees that Carey et al. does not teach a “Fe<sub>65</sub>Co<sub>35</sub>” soft magnetic layer. The reference does teach a CoFe material. CoFe or FeCo is a soft magnetic material as evidenced by Applicant’s specification which teaches using FeCo as a soft magnetic material of the disclosed invention. The Examiner maintains the position that the disclosure of a FeCo alloy inherently satisfies the claim limitations directed to magnetic moment. Applicant argues that “magnetic properties” of soft magnetic materials are not merely material properties. However, Applicant’s arguments and the reference cited therein do not address the specific magnetic property set forth in the claims. There is no evidence of record to establish that one of ordinary skill in the art would recognize that magnetic moment is anything other than a material property.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Holly Rickman  
Primary Examiner  
Art Unit 1773

March 29, 2005